Farm and Garden.

Address all inquiries or communications in relation to agriculture to DR. T. H. HOSKINS, Newport, Vt.

Editorial Notings.

THE ROLFE APPLE.—If any of our readers are finding a profit in growing the Gravenstein—and it is a very profitable apple when well grown—we advise them to try the Rolfe, a Maine apple, highly recommended by the Pomological Society of that state as being much like the Gravenstein, but a month later. It is a seedling of the Blue Pearmain, and keeps up to and beyond the holidays.

FOOD RATIONS.—Remember, in making up a balanced ration for your stock, that cows or horses in winter require less of the nitrogenous element, especially when not giving milk or at work. The heat-makers—the carbonaceous elements of the ration—need to be considerably increased during the cold weather. At hard work the food needs to be more nitrogenous, and more of it, to supply the waste of tissue. If standing still at a low temperature more of the carbonaceous elements are needed to keep up the heat of the animal system.

KEEP ON LEARNING.—A farmer told the editor of *Hoard's Dairyman* that in three years he had imbibed, from that excellent journal, knowledge sufficient so that his two-year-old heifers were as good as his best cows were four years ago, and his old cows—those that he had retained—were doing fully fifty per cent better than ever before. Another subscriber says that he is enabled to make his thirty-cent butter for very much less than it costs the ordinary farmer to make his sixteen-cent butter. He makes a good profit, even on the reduction in cost. There is enough in this to talk about for a year.

MANURE THE ORCHARD. — Next year will be generally the bearing year in New England orchards, and the probability is that the trees will be loaded with a heavy crop which, if small in size and otherwise inferior, will fail of a profitable market. As Mr. Gilbert of the *Maine Farmer*—a skillful orchardist as well as dairyman—says: "Now is the time to manure the apple-trees to promote the fruitage of another year. The fruit buds are already formed, and what is further wanted is that they be forced into a vigorous growth early the coming spring. Manure spread upon the surface, or, better, worked into the soil, will be leached by the rains and melting snow, and the ingredients in solution will be carried into the soil, and in contact with the rootlets, where the effect will be promptly felt by the tree. Barn manure is good enough for this, and in its absence, ashes or fine ground bone are good. If fruit be expected, the tree must have plenty of material to feed upon.

BUTTER IN BRINE.—While the tendency now is to market butter right from the churn—unless necessary to hold it on account of a drop in prices—yet we note considerable reference made to keeping it in brine, either in the granular state or in rolls. There can be no doubt that this is the best way to keep butter, when it must be held for a considerable time, as in pure, cool brine it is protected from every cause of deterioration and may be preserved indefinitely. There is nothing new in this; it is an old method, but not less a good one. The air is full of germs of change and decay, and every perishable food product exposed to the air must at once begin to deteriorate. If a dairy woman makes her butter into balls or prints she should have a tub of sweet saturated brine at hand—brine containing all the salt that the water will dissolve after it has been well boiled—and put her butter into this, weighting it enough to keep it from floating. The brine will exclude the air, and the butter will keep nice and fresh almost any length of time, if the tub is set in a cool, clean, sweet place. This is a good way to keep butter for family use.

PLOT EXPERIMENTS.—An exchange says that "every farm should be made an experiment station to the extent of applying all kinds of fertilizers to small patches of all kinds of crops and on every field. If needed anywhere, the effect will at once be observable and serve as a guide to what materials to apply. This is more economical and sensible than to apply large amounts of fertilizers on a guess. Much has been wasted by wrong applications of fertilizers." We used to believe in this sort of experimenting, and have done a good deal of it in times past; but experience has shown us that it is possible to be greatly misled by the apparent results. It is quite true that much money is being wasted by the wrong use of fertilizers; and the small plot experiment is one of the very ways in which it is easy to be misled. The better way is to try the method which seems most likely to give good results upon a piece of land large enough so that any little local peculiarity of the soil will not nullify the result. We prefer to try fertilizer experiments on a much broader scale than formerly. When done by the acre, or more, these little local variations can be much better judged and estimated, and the farmer will often be surprised to see how what one small part of the field seems to teach is contradicted by all the rest. Now suppose that that small part were all, would you not have been badly deceived if you had founded your future practice upon what it seemed to teach, but really did not?

THE SMALL GRAINS.—The secret of growing wheat, barley and oats successfully and profitably is simply the secret of rotation. Continuous grain-growing, as followed for awhile all the way from Vermont across the continent to Oregon, can be successful only for a few successive seasons on the best land. This has been thoroughly proved in Iowa, Minnesota, and now in Dakota; and the flood of cheap wheat in America must necessarily soon abate. It is so, though not so quickly or completely, with corn; and the time is not far distant when New England farmers can successfully compete with other sections in the production of breadstuffs. We can remember when wheat was an export product from Maine, and it is not impossible that we may live to see Vermont wheat again a staple product, as it was fifty years ago. The progress of good farming will make this possible, which now may seem improbable. On this subject the *New England Farmer* remarks: "We believe there is but very little land on all the broad earth, other than intervales periodically inundated, or that artificially irrigated, that can be continually grain-cropped, the products mainly sold from the farm, and still have a paying fertility remain in it. We will go farther: We do not believe that even very good land, naturally, can be cropped but a *very few times*, ere the profitable point in cultivating it has vanished, and the farmer is sowing in hope, and often reaping just enough to keep soul and body together, all because he don't comprehend the point that he has abstracted from the soil most of the available plant food that can yield profit, and he has so farmed it that few or none of those elements have been returned to the soil that bore them."

THE POTATO IN AROOSTOOK.—The remarkable yield of the potato crop in Northeastern Maine, even in this unfavorable year, is more than surprising—it is astounding. Who would want to emigrate from a section where such results as the following, reported in the *Maine Farmer*, are got from the land in a bad year: "Several parties planted fields in competition for the prize offered by the *American Agriculturist* for best acre grown from the application of commercial fertilizers alone. At our recent visit to northern Aroostook we picked up some statements of these prize acres and also other remarkable yields. C. B. Coy, Presque Isle, claims to have raised 738 bushels of the Dakota Red on a single acre. F. S. Wiggin of the same town raised 537 bushels on an acre, sixty-seven of which were small ones, leaving 470 bushels of market potatoes to the acre. The details of growing these almost fabulous crops are not yet given to the public. Mr. Wiggin, however, states that his acre was one of a field of five, and received no different treatment from the rest, only in the commercial manure used. C. B. Lovejoy of Perham from a field of eleven acres put 2,000 bushels into the factory and had a few bushels over 2,000 more of market potatoes. A single selected acre gave 470 bushels. John Eddy of Woodland averaged over 400 bushels to the acre with his whole crop. A son of Columbus Hayford, Maysville, still a boy, harvested and sold what brought $131 from a single acre, and this was only a sample acre of a field of fourteen. We could go on with similar statements of crops to an unlimited extent, but these are enough to show the bounty of the crop. It can not appear strange that the farmers of that county are cheerful over the situation. Within reach of the railroad, the cellars are still full of market potatoes. We have always thought Orleans county about as good as any place for potatoes; and we did once grow 410 bushels of merchantable potatoes on one acre, but this year we are obliged to confess that Mr. Hayford's son got as much money out of one acre as we got out of three.

Draining a Swamp.

Mr. Editor:—I have a piece of swamp land that is near my buildings that was a frog pond. I ditched it and have pulled the old pine stumps and burned them. It is clear of timber on the surface. There is swamp grass and golden-rod on it, and I expect there are many roots and logs in the ground. I want to inquire if you think it best to plow it or to fertilize it as it is, and whether the formula you gave in the WATCHMAN a few years ago would be good for muck land. The muck is from two to five feet deep. If you will tell how to manage the thing you will do me a favor. Please answer in the WATCHMAN, as I am a subscriber.

North Calais, Vt. S. F. BAILEY.

REPLY.—Our correspondent has been more clear and explicit than many are when asking editorial advice, and yet there are many things more that ought to be known before advice of much value can be given. He says he has ditched the land and got out the stumps; but he does not say how dry it has become. He asks if he shall plow it, which leads us to infer that he thinks he could do so, in spite of the many roots and logs in the ground. He does not say how large the piece is, which would make some difference about the profit of doing anything with it. Yet to remove an eye-sore near his buildings, or rather to abolish it, is worth some expenditure, even beyond the probable return in money. Usually these "frog ponds" are rich enough, when drained, to yield good crops of grass; and if dry enough, both potatoes and corn can be grown upon them. At the Soldiers' Home, Togus, Maine (which is but a short distance from our birthplace), a hundred-acre swamp has been reclaimed, and is now, we hear, a most beautiful field, fit to grow anything. When we saw it last, about sixteen years ago, the work had been carried so far, by deepening and straightening a brook that ran through it and making side-drains to the brook, that a considerable part was planted to corn, which had made a fine growth. But before this could be done it was necessary, after getting a good fall and outlet, to drain all the springs along the edges of the high ground, so as to give a depth of two feet of soil quite clear of stagnant water. The surface settled considerably as the water was drained out; and a singular thing about the operation was that a mineral spring in the midst of the swamp, which had been a popular resort, was deprived of its "mineral," and became sweet, pure water.

Now if Mr. Bailey's frog pond is drained deeply enough, so that it has become dry and fit for the plow, he needs only to plow it as deeply as possible (getting all roots, etc., that he finds in the way) and put in a crop of most any sort. The only manuring likely to be needed at first would be a liberal dressing of air-slaked lime or of unleached ashes. Such land when first drained is usually full of decayed vegetable matter that makes it "sour," and to sweeten it by the use of alkaline manure is the first thing necessary to fit it for a crop. We should not put anything else on it in the way of a fertilizer until we found out for certain that anything else is needed. Being near the house, it might be well worth improving as a garden, for such land, when well drained, generally proves excellent for nearly all garden crops, and particularly good for cabbage, cauliflower, celery, cucumbers and root crops. But little can be hoped for it, however, until it is thoroughly and deeply drained. If this can not be done, grass is the only crop that need be expected, and this, even, will be rather poor as long as the land is wet.

The Experiment Stations.

The following is a list of the State Agricultural Experiment Stations, with the names of their respective directors and post-offices:

ALABAMA.—J. S. Newman, Auburn. (Substation at Canebrake Station.)
ARKANSAS.—A. E. Menke, Fayetteville. (Sub-stations at Pine Bluff, Newport and Texarkana.)
CALIFORNIA.—E. W. Hilgard, Berkeley. (Sub-stations at Paso Robles, Tulare and Jackson,)
COLORADO.—Charles L. Ingersoll, Fort Collins. (Sub-stations at Del Norte and Rocky Ford.)
CONNECTICUT.—Samuel W. Johnson, New Haven; W. O. Atwater, Storrs.
DAKOTA.—Lewis McLouth, Brookings.
DELAWARE.—Arthur T. Neale, Newark.
FLORIDA.—Rev. J. P. DePass, Lake City.
GEORGIA.—W. L. Jones, Athens.
ILLINOIS.—Selim H. Peabody, Champaign.
INDIANA.—Horace E. Stockbridge, La Fayette.
IOWA.—R. P. Speer.
KANSAS.—E. M. Shelton, Manhattan.
KENTUCKY.—M. A. Scovell, Lexington.
LOUISIANA.—William C. Stubbs, Kenner. (Sub-stations at Baton Rouge and Calhoun.)
MAINE.—Whitman H. Jordan, Orono.
MARYLAND.—Henry E. Alvord, Agricultural College post-office.
MASSACHUSETTS.—Charles A. Goessmann, Amherst (State); Henry H. Goodell, Amherst ("Hatch").
MICHIGAN.—Edwin Willits, Agricultural College post-office.
MINNESOTA.—Edward D. Porter, St. Anthony Park.
MISSISSIPPI.—S. M. Tracy, Agricultural College post-office.
MISSOURI.— — — —, Columbia.
NEBRASKA.—Charles E. Bessey, Lincoln.
NEVADA.—Leroy D. Brown, Reno.
NEW HAMPSHIRE.—G. H. Whitcher, Hanover.
NEW JERSEY.— — — —, New Brunswick.
NEW YORK.—Peter Collier, Geneva (State); Isaac P. Roberts, Ithaca (Cornell University).
NORTH CAROLINA.—H. B. Battle, Raleigh.
OHIO.—Charles E. Thorne, Columbus.
OREGON.—E. Grimm, Corvallis.
PENNSYLVANIA.—H. P. Armsby, State College post-office.
RHODE ISLAND.—Charles O. Flagg, Kingston.
SOUTH CAROLINA.—John M. McBride, Columbia.
TENNESSEE.—Charles W. Dabney, Jr., Knoxville.
TEXAS.—F. A. Gulley, College Station post-office.
VIRGINIA.—William Ballard Preston, Blacksburg.
WEST VIRGINIA.—John A. Myers, Morgantown.
WISCONSIN.—W. A. Henry, Madison.
VERMONT.—W. W. Cooke, Burlington.

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Catarrh

my head in the morning by hawking and spitting was painful. Hood's Sarsaparilla gave me relief immediately, while in time I was entirely cured. I am never without Hood's Sarsaparilla in my house as I think it is worth its weight in gold." MRS. G. B. GRAY, 1029 Eighth Street, N. W., Washington, D. C.

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The time has come when every soldier with any disability resulting from service in the army is entitled to a pension, and every invalid pensioner who believes himself rated too low should apply for an increase. No matter if the claim has been rejected. The present liberal construction of the pension laws opens the door for the admission of thousands of rejected claims. Many widows and dependent relatives of soldiers whose claims have been rejected are now being granted pensions, with large sums of arrears. Advice and blanks free. Address

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An unusually attractive line, including all the new designs and colors of the season, and we invite everybody to drop in and look through our stock **M. M. KNIGHT.**

Notes by the Way.

REMEMBER that good care and keeping are as essential as proper selection and breeding.

SEE that the food given your cows is of the best quality and in the best condition for digestion. This is very important.

IT pays far better to feed cows grain the year round. Grass increases the flow of milk and grain increases the amount of cream.

BUCKWHEAT is a crop quite easily grown, requires comparatively little fertilizing and is an excellent crop for preparing the soil for other crops.

FOR large, uniform-sized globules of fat in her milk the little Jersey bears off the palm; yet small globules, if plenty, are best in milk for cheese-making and for market.

THE sharks who send out traveling agents to talk up the business and organize creamery companies are studying their own pecuniary interests, and not those of the dairymen.

IN no event does it pay to starve animals into eating food which they do not want, because they do not relish it and probably do not need it, but will eat it if their hunger is craving enough.

IN all the pure bred geese the males and females are exactly alike in color, while the common geese show white ganders and parti-colored females. The resemblance of sexes has been a great obstacle.

IF the number of good cows in the country is kept up somebody must rear the heifer calves. It is the duty of every dairyman who has first-class cows to use the best dairy blood he can get in his herd and rear the heifer calves from them.

A MACHINE has been invented for compressing bran into cakes, for convenience of transportation and feeding. Its nutritious quality is not injured by the process, and in time bran cakes may become staple articles of commerce.

WHILE the carbonaceous and nitrogenous elements are contained in both classes of foods, the proportions vary widely from about equal parts of the carbonaceous and nitrogenous to fifty parts of carbonaceous to one of nitrogenous.

SET to the task of making a home any young couple who have a mutual, intelligent, well-developed and well-trained love for the beautiful, for order and for generally refined living, and they will readily find means for making their home attractive.

THE *Michigan Farmer* says: "Buyers have paid as high as $1.60 per barrel for good winter apples in the country the past week, and some owners of good orchards are holding for $1.75. The demand for choice fruit for shipment abroad is excellent."

THERE is, so far, no sign that the world will ever produce a textile that can compare with wool in its adaptabilty to the service of man in every latitude. When properly treated it becomes, next to food, air and water, the most valuable gift ever bestowed upon him by a bountiful Creator.

PROFESSOR JOHNSON of the Michigan Agricultural College reaches the conclusion that the early-maturing breeds are the most profitable, and that there is not much difference between the recognized breeds in the cost per pound of producing beef. This is not new, but confirmation is always desirable.

ALL food elements may be divided into two classes, the muscle and milk-producing, called the nitrogenous, and the fat and heat-producing, called carbonaceous, and when foods are properly balanced between these two elements all the other elements are usually present in sufficient quantity.

THE third factory in this country for the manufacture of lactine, or milk sugar, is to be established at Middletown, N. Y. It is comparatively a new industry to this country, which promises to attain importance in the near future. Heretofore the manufacture of milk sugar has been confined to Switzerland and Bavaria.

WHAT a different taste a fine, nicely and quickly fatted fowl has, when served on the table, compared with one which has been forced to scratch for all its living. Farmers realize the importance of fattening quickly when feeding beeves for the butcher, yet many do not seem to realize the fact that what holds good with that kind of meat is equally true when applied to fowls.

THE *New England Farmer* well says that "while many a dairyman is saying that there is no money in the business at present prices, we know that there is, when the best of modern methods are applied. We have no sympathy with that man who is plodding along in the ways of his forefathers; who does not take the papers and does not attend farmers' meetings. Why should we pity him who thinks he knows it all?"

THE *Mirror and Farmer* says: "Let the lady who presides over a small dairy be not discouraged by the tirades against private dairy butter that appear in papers whose editors are uninformed on the subject and do not stop to reflect that there is bad private dairy butter and also bad creamery butter found in the market. In comparison with the amount made probably the larger per cent of bad butter is turned out by the creameries."

THE percentage of cream, as measured by a cream gauge, may be very materially increased by rapid cooling of the milk, which causes the cream to rise more rapidly and carry up with it a larger amount of caseous matter. The cream line at first will not be very distinct, but grow more so the longer the milk stands, the cream all the while continuing to rise above the caseous matter and apparently growing less in amount, while really it is only parting with the other solids and growing purer and more compact.

IF the gentleman whose lips pressed the lady's snowy brow and thus caught a severe cold had but used Dr. Bull's Cough Syrup no doctor's bill would have been necessary.

SOME genius proposes to introduce paper shirts. Wearing paper shirts means bearing rheumatism. With Salvation Oil, however, paper shirts might still be a success. Price twenty-five cents.